

REMARKS

Claims 1-8 were previously canceled. Applicants reserve the right to prosecute the subject matter of any canceled claims in one or more continuation, continuation-in-part, or divisional applications. No new matter has been added. Claims 9-21 are currently pending. Applicants respectfully submit that the pending claims are allowable as described below.

Rejections under 35 U.S.C. § 102

Claims 9, 13, 14, and 17-20 were rejected under 35 U.S.C 102(e) as being anticipated by US 2005/0008305 to Brown et al. (Office Action, page 3-4). Applicants respectfully disagree.

It is well settled that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in ... [the] claim.” Manual of Patent Examining Procedure (MPEP) § 2131 (8th ed., October 2005); and *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The present invention cannot be anticipated by Brown for the following reasons.

Rejection of Claim 9

Applicants will discuss the rejection of Claim 9 in two parts, (a) the inner layer and (b) the sheath.

(a) inner layer

Claim 9 recites “an inner layer...having a lubricous component for decreasing friction against the optical fiber unit.” In Claim 9, the lubricous component is part of inner layer itself, not a separate layer. For example, [0025] of the current specification indicates that the inner layer is “preferably made of polyethylene containing silicon or carbon...,” indicating that the lubricous component, e.g. silicon or carbon, is part of the material that makes up the inner layer. In the current invention, the lubricous component is not an additional layer that is distinct from the inner layer.

In Brown, an additional layer is added to the internal surface of the tube 3 to decrease the friction between the tube and the optical fiber. Brown teaches that the tubes 3 are provided with a co-extruded lining on the internal surface to minimize friction between the tube 3 and the optical fiber unit (Brown [0028] lines 10-14). The co-extruded lining is an additional layer distinct from the tube 3. (*Id.*). Furthermore, in Brown, it is the co-

extruded lining, not the tube itself, that decreases the friction with the optical fiber. In the current invention, it is the inner layer itself, which has lubricous component, that decreases the friction. Thus, Brown does not disclose an inner layer having a lubricous component for decreasing friction against the optical fiber unit.

(b) Sheath

Claim 9 recites “a sheath provided around the inner layer and made of a material with a lower coefficient of friction than polyethylene in order to decrease friction when the tube is installed in the communication pipe.”

Examiner alleges that Brown teaches a sheath (5) made of polymer with a lower coefficient of friction than polyethylene. (Page 3 of Office Action, citing Brown [0003]). The cited paragraph teaches that (1) “it is desirable for the ... sheath to be manufactured from a material with relatively low coefficient of friction,” (2) “low friction materials are manufactured primarily from high density polyethylene,” but (3) the sheath made from high density polyethylene (stiff material) “will not blow very far,” thus, failing to remedy the problem addressed by Brown. No where in the paragraph, does Brown teach that the sheath (5) is made of “a polymer with a lower coefficient of friction than polyethylene.” On the contrary, Brown teaches that sheath (5) is made of medium density polyethylene, (Brown [0028] lines 17~18). Because the sheath of Brown is in fact made of polyethylene, it cannot meet the limitation of claim 9 that the sheath has “a lower coefficient of friction than polyethylene.”

As Brown fails to disclose each and every element of claim 9, Applicants respectfully submit that the rejection of claim 9 should be withdrawn.

Rejections of Claims 13, 14, and 17-19

Claims 13, 14 and 17-19 depend on claim 9 directly or indirectly. As the Brown does not teach each and every element of claim 9, Applicants respectfully submit that the rejections of the dependent claims 14 and 17-19 should be withdrawn as well.

Regarding Claims 13 and 17, Claim 13 recites “the sheath includes a lubricous component,” and Claim 17 recites that the polymer making up the sheath is “polyethylene containing a lubricous component.” In both claims, the lubricous component is a component that makes up the sheath itself, not a separate layer. The Examiner, in rejecting Claim 13 and 17, refers to element (7) of Brown, Fig. 1, as a lubricous component. (Page 3 of Office Action). Element (7) is in fact a separate lubricating layer, and the sheath (5) does not derive its low-friction properties from an incorporated lubricous component. Brown

fails to teach each and every element of Claims 13 and 17 because Brown does not teach that the sheath includes a lubricous component.

Rejection of Claim 20

Claim 20 recites in part “a single layer made of polymer having a lower coefficient of friction than polyethylene...so as to decrease friction against the optical fiber unit contacted with an inner circumference of the tube...as well as friction generated on an outer circumference of the tube while the tube is installed in the communication pipe.” Therefore, Claim 20 requires that the tube is made of (i) a single layer made of polymer having a lower coefficient of friction than polyethylene; (ii) to decrease friction against the optical fiber unit; as well as (iii) to decrease friction generated on outer circumference of the tube, (that is friction against the communication pipe), while the tube is installed in the communication pipe.

In Brown, the tube assembly is made of multiple layers. Brown does not disclose a “single layer” that even comes in contact with both the optical fiber unit and the communication pipe, the duct. Thus, Brown does not disclose each and every element of Claim 20.

In the Final Office Action, the Examiner alleges that Brown discloses (i) a “single layer” (comprising tube **3**) made of polymer; (ii) to decrease friction against the optical fiber unit; as well as (iii) (decrease) friction generated on the outer circumference of the tube while the tube is installed in the communication pipe (citing to Brown [0030]-[0033]). (Final Office Action page 4). Figure 1 of Brown reveals that the tube **3**, (referred to by the Examiner as “single layer”), does not come in contact with the duct. In fact there are at least 3 layers, (the non-metallic water barrier **6**, the sheath **5**, and the lubricant layer **7**, between the tube **3** and the duct. Furthermore, Brown [0030]-[0033], cited by the Examiner, discusses the lubricant layer **7**, not the tube **3**. Thus, the Examiner has not identified a “single layer” in contact with both the optical fiber unit and the duct.

As Brown fails to disclose each and every element of Claim 20, Applicants respectfully submit that the rejection of Claim 20 be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 10, 12, 15, 16 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of US 2003/0123834 to Tatarka et al (“Tatarka”). (Office Action, pages 4-5). Applicants respectfully disagree.

In *KSR International Co. v. Teleflex Inc.*, the U.S. Supreme Court rejected the Federal Circuit's *rigid application* of the "teaching, suggestion, motivation" test ("the TSM test") in determining obviousness in the particular case in question. 127 S.Ct. 1727, 82 U.S.P.Q.2d 1385, 1395 (2007) (emphasis added). According to the Supreme Court, the correct analysis is set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966). *Id.* However, the *KSR* decision indicated that while the TSM test is not the sole method for determining obviousness, it may still be used and in some cases is helpful. *Id.* at 1396. ("When it first established [the TSM test], the Court...captured a helpful insight."). Indeed, the guidelines for the examination of patents in the wake of the *KSR* decision make clear that an Examiner may still apply the TSM test, after resolution of the *Graham* analysis. See Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, 72 Fed. Reg. 57526, 57528 (Oct. 10, 2007) ("USPTO Guidelines").

The *Graham* factual inquiries are: (1) determine the scope and contents of the prior art; (2) ascertain the differences between the prior art and the claims at issue; (3) resolve the level of ordinary skill in the pertinent art; and (4) evaluate any evidence of secondary considerations. *KSR*, 82 U.S.P.Q.2d at 1395 (*citing Graham*, 383 U.S. at 15-17). Once the *Graham* factors have been addressed, the Examiner may apply the TSM test, asking whether (1) a teaching, suggestion or motivation exists in the prior art to combine the references cited, and (2) one skilled in the art would have a reasonable expectation of success. See USPTO Guidelines at 57534.

The *Graham* factual inquiries begin with an analysis of the scope and content of the prior art, in view of the scope of the claimed invention. See USPTO Guidelines at 57527 (*citing Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005)).

Regarding claims 10 and 12, the Examiner alleges that Brown teaches the limitations of base claim 9. (Office Action, page 5). Although the Examiner admits that Brown does not teach a reinforcing layer between the inner layer and the sheath, he alleges that Tatarka teaches a reinforcing layer between the inner layer and the sheath. *Id.* Applicants respectfully disagree.

As explained above, Brown does not teach or suggest all the limitations of claim 9. Further, nothing in Tatarka remedies the deficiencies of Brown with respect to the limitations of base claim 9. For example, in neither Brown nor Tatarka is there any teaching, disclosure, or suggestion of "an inner layer . . . having a lubricous component for decreasing friction

against the optical fiber unit,” or of “a sheath . . . with a lower coefficient of friction than polyethylene,” as recited in instant claim 9. In addition, even assuming, *arguendo*, that outer strength member 144 of Tatarka allegedly comprises a “reinforcing layer,” which does not, outer strength member 144 of Tatarka is not disclosed or suggested, as being made of polyethylene, but rather of “aramid or fiberglass yarns” (Tatarka ¶ 23). Thus, one skilled in the art would not be motivated to include the reinforcing layer from Tatarka in the tube of Brown, to arrive at the tube as recited in claim 10 or 12. The PTO has not presented any motivation to combine the cited references.

Simply put, to arrive at the tubes of the instant claims, one skilled in the art must “vary all parameters or try each of numerous possible choices” of Brown and Tatarka without “direction as to which of many possible choices is likely to be successful.” *Medichem*, 437 F.3d at 1165. This is precisely what the courts have held not to be a reasonable expectation of success. *Id.*; *O’Farrell*, 853 F.2d at 903-04.

Because the Examiner has not demonstrated that one skilled in the art would have had a reasonable expectation of success for the tubes of the instant claims by combining the teachings of Brown and Tatarka, the Examiner has failed to state a *prima facie* case of obviousness. Therefore, claims 10 and 12 are not obvious over Brown in view of Tatarka.

Regarding claim 15, as noted above, contrary to the Examiner’s argument, the combination of Brown and Tatarka fails to render obvious the limitations of base claim 10. Further, there is no disclosure or suggestion in Brown of a sheath which includes a lubricous component, (*i.e.*, a sheath made of a material incorporating a lubricous component). Rather, the element 7 of Fig. 1 pointed to by the Examiner is disclosed in Brown as a “lubricant polymer *layer*” (emphasis added). That is, element 7 is a distinct layer outside of the sheath (the sheath being designated with reference character 5 in Fig. 1 of Brown). Therefore, even if there were a motivation to combine Brown and Tatarka, the tube recited in claim 15 could not be obtained. All the claim elements must be considered in a 103 rejection. Claim 15 is therefore not obvious in light of these references, and the rejection of claim 15 should be withdrawn.

Next, the Examiner alleges that paragraph 28 of Brown teaches that the lubricous component is silicon, carbon, or PBT, as recited in claim 16. (Office Action, page 5). Claim 16 depends on claim 10. As described above, the combination of Brown and Tatarka fails to render base claim 10 obvious. Further, paragraph 28 of Brown does not teach that a lubricous component is silicon, carbon, or PBT, but rather a lubricant *layer* with an “active component being an organic *silicone* slip agent.” (Emphasis added.) Therefore, Brown and Tatarka,

alone or in combination, fails to suggest or motivate the tube as recited in claim 16. The Examiner has failed to establish a *prima facie* case of obviousness, and the rejection of claim 16 should be withdrawn.

Regarding claim 21, the Examiner alleges that Brown teaches the limitations of the base claim 20; that Tatarka teaches a tube layer composed of PBT; and that it would have been obvious to one of ordinary skill in the art to make the tube of Brown out of PBT as taught by Tatarka. (Office Action, page 5). Applicants respectfully disagree.

As described in the above section, the tube in Brown is made of multiple layers. Brown does not disclose a “single layer” that even comes in contact with both the optical fiber unit and the communication pipe, the duct, as recited in claim 20. Tatarka does not cure this defect. Brown and Tatarka, alone or in combination, does not even teach or suggest any tubes being made of a single layer of PBT, as recited in claim 21. Therefore, the instant claim 21 is not obvious over Brown in view of Tatarka.

Finally, claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Tatarka and further in view of US 6,370,303 to Fritz et al. (“Fritz”). (Office Action, page 6). Applicants respectfully disagree.

Claim 11 depends on claim 10. As explained above, the combination of Brown and Tatarka fails to render base claim 10 obvious, because it does not teach or suggest the tube as recited in claim 10. Fitz does not cure this defect. Nonetheless, the Examiner alleges that Fitz teaches a reinforcing member for strengthening a tube for installing an optical fiber unit with a tensile strength higher than 20 MPa, as recited in claim 11. (Office Action, page 6). However, the section of Fitz which the Examiner relied on does not teach or suggest a tensile strength of a reinforcing layer at all. (Column 7, line 66 to Column 8, line 7). It rather discloses a range of *Young's modulus* for the “strength member 20.” Indeed, Young's modulus is a measure of stiffness rather than of tensile strength. Thus, Fitz teaches away from the tube recited in claim 11. For purpose of obviousness analysis, a prior art that teaches away negates a motivation to modify the prior art to arrive at the claimed invention. Thus, the combination of Brown, Tatarka and Fitz does not provide one skilled in the art with any suggestion or motivation for the claimed tube as recited in claim 11. Applicants respectfully request that the rejection of claim 11 be withdrawn.

CONCLUSION

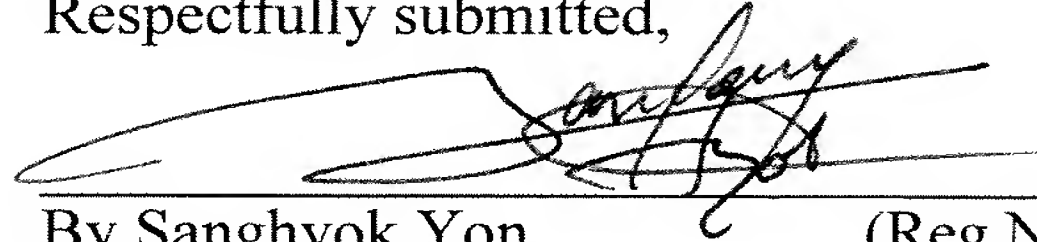
In view of the foregoing, all the rejections of the claims should be withdrawn. Reconsideration, entry of the above remarks, and allowance of the pending claims are

respectfully requested. Should the Examiner not agree that all claims are allowable, a personal or telephonic interview is respectfully requested to discuss any remaining issues and to accelerate the allowance of the above-identified application.

Please apply fees for Petition for Extension of Time, and any other charges, or any credits, to Jones Day Deposit Account No. 503013.

Date: February 15, 2008

Respectfully submitted,



By Sanghyok Yon (Reg No. 59,550)
For: Yeah-Sil Moon (Reg No. 52,042)

JONES DAY
222 East 41st Street
New York, New York 10017
(212) 326-3939